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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,016	01/31/2001	Shekar Nair	ALLG001/00US	2269

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EXAMINER

LIN, WEN TAI

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/774,016

Applicant(s)

NAIR ET AL.

Examiner

Wen-Tai Lin

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 16-37 is/are rejected.
- 7) ☒ Claim(s) 12, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-37 are presented for examination.
2. Claims 5 and 16 are objected to because the following terms lack antecedent basis: "the corresponding user" (in claim 5) and "the plurality of routing devices" (in claim 16).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 18-28 and 33-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Bhaskaran[U.S. Pat. No. 6266335].

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5. As to claims 18 and 22, Bhaskaran teaches the invention as claimed including: an apparatus for routing data in accordance with routing schemes for a plurality of customers, the apparatus comprising:

a plurality of input/output modules, each module including at least one port including at least one data channel, a plurality of independent routers each having associated therewith a plurality of data channels [260-280, Fig.2]; and

a control fabric coupled to said input/output modules [205, Fig.2], wherein one of said plurality of input/output modules includes a plurality of channels, a first subset of which are associated with a first one of said plurality of independent routers and a second subset of which are associated with a second one of said plurality of independent routers [col.2, lines 19-35].

6. As to claim 19, Bhaskaran further teaches that each of the independent routers is a software construct residing on at least one router card [Abstract; i.e., as a router in a router pool, each router must be have a software construct for executing different routing strategies].

7. As to claim 20, Bhaskaran teaches that the system further comprising: a plurality of line cards that are associated with the independent routers [415-418, Fig.4a; 582-588, Fig.5F] and that include storage for routing and forwarding information for their respective routers; and a data fabric connecting the line cards [594, Fig. 5F].

8. As to claim 21, Bhaskaran teaches that the system further comprising: a management card for managing the apparatus that is connected to the router cards and the line cards via the control fabric [590, Fig.5F].

9. As to claims 23-28 and 33, since the features of these claims can also be found in claims 18-22, they are rejected for the same reasons set forth in the rejection of claims 18-22 above.

10. As to claim 35, Bhaskaran teaches that said assigning the interface and the router to a customer further comprises provisioning a bandwidth of the network interface and the resources of the router according to a customer's requirements [col.10, lines 5-43].

11. As to claims 34 and 36-37, since the features of these claims can also be found in claims 18-28, 33 and 35, they are rejected for the same reasons set forth in the rejection of claims 18-28, 33 and 35 above.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-5, 16-17 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamberton et al.(hereafter "Lamberton")[U.S. Pat. No. 6754220].

14. As to claims 1-4 and 16-17, Lamberton teaches the invention substantially as claimed including: a routing system comprising:

a plurality of ports that input and output network traffic that is separated into at least one channel per port [Fig.3; Abstract; i.e., because each active router is a full-blown router, each one is inherently equipped with a plurality of input/output ports for setting up communication channel per assigned ports];

a plurality of network interfaces, each comprising at least one channel and a plurality of routers, wherein any one of the plurality of network interfaces is assigned to any one of the plurality of individual routers and each router is associated with an independent routing instantiation for identifying data packets traversing each corresponding network interface [col.4, line 26 – col.5, line 16; i.e., due to the fact that one end of the plurality of routers are connected to a plurality of hosts via a local network (330, Fig.3) and the other end of the routers are each connected to various next-hop network (370, Fig.3), these routers and hosts are by default interfaced to a plurality of network interfaces, each capable of establishing a point-to-point communication through the mediator (300, Fig.3)].

Lamberton does not specifically teach that the routing system (including the mediator) is organized as a device and is housed in a single chassis.

However, since all the routers in Lamberton's system form as a router pool (i.e., any of the routers can be dynamically replaced by any other router) it is obvious that these routers are located in the same location. As such, it would be obvious to one of ordinary skill in the art to organize and house all these routers and interface/line cards as one physical device, because it is an engineering practice to have all locally affiliated parts housed in one device so as to ease the system maintenance and routing management.

15. As to claim 5, Lamberton further teaches that a maximum amount of network traffic is assigned to each network interface and its corresponding router, in accordance with bandwidth requirements of the corresponding user [col.2, lines 41-46; 64-67 and col.5, lines 33-44; i.e., assigning a maximum amount of traffic to each network interface and its corresponding router in accordance with bandwidth requirement of each communication channel is an obvious load balancing tactic.]

16. As to claims 29-32, since the features of these claims can also be found in claims 1-5 and 16-17, they are rejected for the same reasons set forth in the rejection of claims 1-5 and 16-17 above.

17. Claims 6-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamberton et al.(hereafter "Lamberton")[U.S. Pat. No. 6754220] in view of Official Notice.

18. As to claims 6-9, Lamberton does not specifically teach each router comprises a software construct that resides on a router card within the routing device, a microprocessor and an associated memory, wherein each router card comprising at least one router and the cards are hot-swappable.

However, Official Notice is taken that all these features are well known in the art of router implementation with contemporary plug-and-play technology.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented Lamberton's routers with card-level processing capability (i.e., each router preferably using a microprocessor with software constructs and associated memory) on hot-swappable boards because a programmable router is easier to upgrade its functionality, while the plug-and-play implementation makes the boards easily replaceable whenever a fail-over has to be made.

19. As to claim 10, Lamberton further teaches that a primary router on a first router card is associated with a secondary router on a second router card, such that the secondary router assumes the function of the first router upon a failure of the first router or a designation by an operator of the routing device [Figs. 1-3; note that the primary/secondary assignment of Figs. 1-2 can be easily achieved with the

configuration of Fig.3, because each active router is consider primary to the channels that are being assigned to, but are also secondary to any other active routers for the purpose of fault-tolerance.]

20. As to claim 11, since the feature of this claim can be found in claims 1-10 and 13, it is rejected for the same reasons set forth in claims 1-10 and 13 above.

21. As to claim 13, Lamberton teaches that the system further comprising a management card for managing the routing device [300, Fig.3] that is connected to the router cards via a first medium [300, Fig.3].

22. Claims 12 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Hunt et al. [U.S. Pat. No. 5361259];

Srikanth et al. [U.S. Pat. No. 6556547];

Wils et al. [U.S. Pat. No. 6397260]; and

Katz [U.S. PGPub 20020018477].

24. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 days from the mail date of this letter. Failure to respond within the period for response will result in ABANDONMENT of the application (see 35 U.S.C. 133, M.P.E.P. 710.02, 710.02(b)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (703)305-4875. The examiner can normally be reached on Monday-Friday (8:00-5:00) .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:


(703)872-9306 for official communications; and

(703)746-5516 for status inquires draft communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Wen-Tai Lin

July 2, 2004


7/2/04